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U.S. Department of Transportation  
Docket Management Systems, Docket Operations  
West Building Ground Floor, Room W12-140,  
1200 New Jersey Ave., SE  
Washington, DC 20590

**Subject:** Amendment to Exemption 18339B to continue progress towards integration of UAS into the NAS that normalize safe, scalable, economically viable, and environmentally advantageous UAS operations.

To Whom It May Concern:

### **Summary**

The Federal Aviation Administration issued Exemption 18338C to UPS Flight Forward on 4 April 2021. See Docket No. FAA-2019-0652 (exemption from § 91.7(a) and 135.25(a) of Title 14, Code of Federal Regulations (14 CFR)). In Addition, the Federal Aviation Administration issued Exemption 18339B to UPS Flight Forward on 27 April 2021. See Docket No. FAA-2019-0628 for list of exemptions. Pursuant to 14 C.F.R. Part 11 and 49 U.S.C. § 44807, UPS Flight Forward Inc. ("UPSFF"), hereby requests Amendments of Exemption 18339B necessary to continue to expand air carrier operations under 14 C.F.R. Part 135 employing the Matternet Inc. ("Matternet") M2 unmanned aircraft systems ("UAS"). In an effort to expand operations, UPSFF intends to transport items other than "medical supplies" but would fall under the overarching label of "package delivery." The proposed amendments are supported by 21 continuous months of safe air carrier operations in the United States providing continued promotion and innovation of economic development of UAS.

Amendments requested: UPSFF is seeking regulatory relief from 91.209(a)(1) and amendment to certain conditions and limitations in Exemption 18339B.

### **Regulatory Relief from 91.209(a)(1)**

#### **Amendment requested to the following Conditions & Limitations:**

18339B: 12, 17, 21, 23, 24, 44, 59

#### **I. Introduction**

Exemption 18338C was issued to permit UPSFF to conduct air carrier operations with the Matternet M2 aircraft while Matternet is engaged in the process of obtaining a type certificate for the M2. Matternet has demonstrated and completed the required flight hours in support of the durability and reliability criteria as allowed under §21.17(b) to achieve type certification. UPSFF requests relief from 91.209(a)(1) and Conditions and Limitations within 18339B to continue to expand operations safely while becoming more economically scalable and viable. Therefore, UPSFF requests that FAA grant this Petition to Amend Exemptions 18339B.

## **II. Amendments Requested**

UPSFF seeks to amend exemption 18339B as necessary to allow for the following operational improvements and sustainability. These practices are supported by lessons learned through 21 months of safe Air Carrier operations with over 5,000 flights in the United States and through testing & demonstrations in support of the Type Certification.

### **14 CFR Part 91**

#### **91.209(a)(1)**

Section 91.209(a)(1) prescribes an aircraft may not be operated "During the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than 6 degrees below the horizon unless it has lighted position lights." Part 107.29(a)(2) requires: The small unmanned aircraft has a lighted anti-collision lighting visible for at least 3 statute miles that has a flash rate sufficient to avoid a collision. 107.29(a)(2)(b) states "No person may operate a small unmanned aircraft system during periods of civil twilight unless the small unmanned aircraft has lighted anti-collision lighting visible for at least 3 statute miles that has a flash rate sufficient to avoid a collision." UPSFF is requesting exemption from 91.209(a)(1) to align with recent Part 107.29 Operation at Night Ruling. Alignment with new Part 107 language creates consistency and provides the equivalent level of safety.

#### **Conditions and Limitations:**

##### **1. 18339B (C&L #12):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #12) requiring "The barometric pressure system must be: a. Operative for all flight operations; and b. Calibrated, accuracy of value validated and determined to be operational for each flight by the PIC." The M2 current system completes internal checks that prohibit flight when the barometric internal check is out of limits. UPSFF is requesting language modification to accurately reflect system capabilities. Modification of language allows for compliance with limitations and conditions and provides an equivalent level safety.

##### **2. 18339B (C&L #17):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #17) which states "For all operations, as an additional means for collision mitigation, the Matternet M2 v9 series aircraft must be equipped with an operational anti-collision light between the beginning of evening civil twilight and the end of morning civil twilight." UPSFF is requesting language be adjusted to align with 107.29 (b) "Operations between periods of civil twilight the aircraft must have lighted anti-collision lighting visible for at least 3 statute miles that has a flash rate sufficient to avoid a collision." In support of this change, UPSFF requests relief from 91.209(a)(1) prescribing aircraft may not be operated "During the period from sunset to sunrise (or, in Alaska, during the period a prominent unlighted object cannot be seen from a distance of 3 statute miles or the sun is more than 6 degrees below the horizon unless it has lighted position lights." Anti-collision lights are sufficient to provide the same or greater level of safety for flights under 400 ft. Alignment with recent regulations 107.29 (b) provide consistency and provide an equivalent level of safety.

##### **3. 18339B (C&L #21):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #21) limiting preflight of the M2 to the PIC. UPSFF requests language to be modified to state "RPIC is responsible to ensure preflight is completed in accordance of FAA Approved procedures." (135.243(b)(1)) Current FAA UPSFF FAA approved procedures allow the RPIC or VO to complete the preflight. This request provides consistency and provides an equivalent level of safety.

#### **4. 18339B (C&L #23):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #23) Prohibiting transient or sustained operations of any kind over any open-air assembly of people. UPSFF requests modification of the language to align with CFR Part 107.140 (2), for Category 4; specifically removing the term transient. UPSFF is operating the M2 and Matternet is currently seeking Type Certification and should receive equal or greater allowances as a Category 4 UAS. The M2 does not have manufacturer limitations for transient flight over open air assemblies of people. This request provides consistency and provides an equivalent level of safety.

#### **5. 18339B (C&L #24):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #24) prohibiting operations with sustained flight directly over roadways or highways. UPSFF requests modification of the language to align with CFR Part 107.145 and 107.140, for Category 4 and manufacturers' limitations. UPSFF is currently operating the M2 and Matternet is currently seeking Type Certification and should receive equal or greater allowances as a Category 4 UAS. The M2 does not have manufacturer limitations for sustained flight directly over roadways or highways. UPSFF is requesting the M2 be operated in accordance with the operating limitations specified in the approved Flight Manual or as otherwise specified by the Administrator. This request provides consistency and an equivalent level of safety.

#### **6. 18339B (C&L #44):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #44) "For all human-made obstructions exceeding 100 feet above the terrain that the operator intends to overfly, the maximum height of such obstructions must be physically verified to be accurate to less than +/- 5 feet error either by the operator or a third party that is acceptable to the Administrator." UPSFF requests removal of the requirement to physically verify within +/- 5 feet error of obstructions exceeding 100 feet. This requirement is burdensome and unrealistic. UPSFF is requesting modification of existing language to ensure a safe clearance over any human-made obstruction exceeding 100 feet by utilizing our FAA accepted route approval process for planned flight paths. The UPSFF route approval process ensures adequate clearance above all human-made obstructions. An equivalent level of safety can be assured by following our FAA accepted Route Approval Process.

#### **7. 18339B (C&L #59):**

**Request:** UPSFF is requesting modification of Exemption 18339B (C&L #59) "VOs are trained and checked in accordance with the UPS FF's approved training and checking program. Prior to commencing operations under part 135, VOs used in the operation must complete an evaluation and supervised operating experience." UPSFF is requesting modification of "supervised operating experience" with "supervised operations" to accurately reflect the approved UPSFF training program. In addition, UPSFF is requesting modification of C&L59 paragraph g to replace the reference to Wing-with UPSFF. This request provides consistency and an equivalent level of safety.

### **III. Grant of the Amendments are in the Public Interest**

UAS delivery depends on safe, responsible, and scalable operations. UPSFF has demonstrated safe operations through 21 months of continuous Part 135 Air Carrier service, and extensive testing. UPSFF continues to demonstrate our commitment to responsible flying, including extensive community engagement. UPSFF values our partnership in the PSP and BEYOND programs sharing significant practical experience and data regarding small UAS air carrier operations. UPSFF is committed to assisting the FAA in understanding the risks and appropriate risk mitigation measures, which will further the FAA's policy decisions that could result in rulemaking decisions. UPSFF is committed to the testing and advancement of new technologies, alongside the FAA to advance the UAS industry.

Economic benefits include the creation of jobs in support of UPSFF operations as well as supporting local businesses by providing logistical services from established enterprises to consumers. Our same-day delivery reduces exposure for high risk demographics and reduces transit time. UAS zero emissions \_\_\_\_\_

operations are environmentally friendly, reducing the emissions profile of our air and ground operation. In addition, these aircraft reduce the noise of traditional aircraft and ground courier operations. Drone delivery has the potential to reduce accidents and miles driven as well as servicing various customers, including rural and hard to reach areas.

Therefore, granting this amendment is in the public interest as it will permit UPSFF to continue to support the FAA's goals of fully integrating UAS into the National Airspace System, further developing certificated air carrier services that normalize safe, scalable, economically viable, and environmentally advantageous UAS operations.

#### **IV. Grant of the Amendment Achieves an Equivalent Level of Safety**

Operations are subject to UPSFF Air Carrier approved and accepted manuals and the OpSpecs as well as any Conditions and Limitations in current Exemptions 18339. UPSFF has submitted an SMS program voluntarily and will be one of the first UAS Part 135 Air Carriers to seek a validated and accepted program. The reliability of the Matternet system and UPS Flight Forward operational experience achieves a level of safety equivalent to the level of safety provided under the foregoing regulations.

#### **V. Conclusion**

Further, the proposed amendments will advance the objectives of the FAA's BEYOND program of enabling operations that are "repeatable, scalable and economically viable with a specific emphasis on... small package delivery." In addition, they will help to realize major objectives of the former Integration Pilot Program that remain in the public interest, including to "open the skies for the delivery of... commercial packages" and to "help in the development of a future national aviation regulatory framework that can fuel American leadership in unmanned aviation." They will enable UPSFF to expand operations and will help to advance the Federal Aviation Administration's (FAA) goal of enabling operations that normalize safe, scalable, economically viable, and environmentally advantageous UAS operations.

We respectfully request evaluation of these requested amendments.

Sincerely,



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